Available online at
ScienceDirect
www.sciencedirect.com
Elsevier Masson France
EM|consulte
www.em-consulte.com/en
Diabetes & Metabolism 41 (2015) 102–103

Letters to the editor

Liraglutide treatment in a patient with HIV, type 2 diabetes and sleep apnoea–hypopnoea syndrome

Keywords: HIV; Type 2 diabetes mellitus; Obesity; Sleep apnoea–hypopnoea syndrome; Apnoea–hypopnoea index, Liraglutide

Antiretroviral therapy (ART) has reduced mortality in human immunodeficiency virus (HIV) infection, but increased cardiometabolic comorbidities at an earlier age [1]. In general, the incidence of type 2 diabetes mellitus (DM2) is four times higher in the HIV population, and is related to increased insulin resistance, ART (first-generation protease inhibitors and thymidine nucleoside analogues) and lipodystrophy [2].

Obesity is the root cause of the sleep apnoea–hypopnoea syndrome (SAHS) and, as DM2 is also prevalent in the obese, it is a disease on the rise in HIV metabolic syndrome [3]. We report here on a case of HIV with DM2, obesity, hyperlipidaemia and SAHS, and its favourable evolution with glucagon-like peptide (GLP)-1 receptor agonist treatment.

A 62-year-old man came for consultation in January 2014 with stage-A1 HIV infection since 1998, DM2 since 2007, and hyperlipidaemia, obesity and moderate SAHS with continuous positive airway pressure (CPAP) treatment since 2012, with an apnoea–hypopnoea index (AHI) of 27. His treatment included transactivation responsive region (TAR) gene therapy as well as tenofovir, emtricitabine, raltegravir, triflusal, rosuvastatin, insulin Levemir (detemir, 30 IU/day), vildagliptin (100 mg twice daily), metformin (1700 mg twice daily) and gliclazide (60 mg twice daily). The patient weighed 118 kg (body mass index: 41.3 k/m^2) and his waist circumference was 138 cm. His physical examination was normal, and he followed no dietary or exercise regimen. Analyses showed a fasting glucose of 9.55 mmol/L, glycosylated haemoglobin (HbA_{1c}) of 7.5% and negative microalbuminuria.

The patient was advised to walk daily for 1 h and follow a 1500-calorie diet. Gliclazide and vildagliptin were discontinued, leaving him on 1700 mg/day metformin and 30 IU/day Levemir; off-label liraglutide was initiated at 0.6 mg/day and up-titrated to 1.2 mg/day.

At 8 weeks after starting liraglutide, he had lost 6 kg (weight 112 kg). His fasting glucose was 7.77 mmol/L and HbA_{1c} was 6.8%. At 24 weeks, his body weight was 102 kg (–16 kg) and his waist circumference was 121 cm (–17 cm). Fasting glucose was 6.88 mmol/L, low-density lipoprotein cholesterol was 1.53 mmol/L, high-density lipoprotein cholesterol was 0.85 mmol/L, triglyceride was 1.63 mmol/L and HbA_{1c} was 6.5%. Metformin dosages were decreased and Levemir was decreased to 20 IU/day. The patient presented with no complications.

Polysomnography was performed and showed an improvement in AHI down to 7.1 (mild SAHS) and 0–90% lower saturation.

This case illustrates the value that GLP-1 receptor agonists may have in HIV with DM2 by improving glycaemic control for weight loss and decreasing body fat [4], resulting in improvement of other comorbidities such as SAHS and vascular risk to safe levels.

Disclosure of interest

The authors declare that they have no conflicts of interest concerning this article.

Financial support: no financial support was received for this submission.

Informed consent: the patient gave informed consent for publication of his clinical case under conditions of anonymity.

References

[1] Mocroft A, Ledergerber B, Katlama C, Kirk O, Reiss P, d'Arminio, et al. Decline in the AIDS and death rates in the EuroSIDA study: an observational study. Lancet 2003;362:22–9.
[2] Paik IJ, Kotler DP. The prevalence and pathogenesis of diabetes mellitus in treated HIV-infection. Best Pract Res Clin Endocrinol Metab 2011;25:469–78.
[3] Resnick HE, Redline S, Shahar E, Gilpin A, Newman A, Walter R, et al. Diabetes and sleep disturbances: findings from the Sleep Heart Health Study. Diabetes Care 2003;26:702–9.

http://dx.doi.org/10.1016/j.diabet.2014.10.005
1262-3636/© 2014 Elsevier Masson SAS. All rights reserved.

[4] Diamant M, van Agtmael M. Liraglutide treatment in a patient with HIV and uncontrolled insulin-treated type 2 diabetes. Diabetes Care 2012;35:e34.

M.D. García de Lucas [a,*]
J. Olalla Sierra [a]
J. Piña Fernández [b]
[a] *Department of Internal Medicine, Marbella, Málaga, Spain*
[b] *Department of Pneumology, Hospital Costa del Sol, Marbella, Málaga, Spain*

* Corresponding author. H. Costa del Sol, autovia, A7, 29030 Marbella, Málaga, Spain. Tel.: +34606338142.
E-mail addresses: gdelucaslola@gmail.com (M.D. García de Lucas), julio.olalla@gmail.com (J. Olalla Sierra), juanapf@me.com (J. Piña Fernández)

Received 6 October 2014

Accepted 13 October 2014
Available online 6 November 2014